1. (Currently Amended) A single plate capacitive acceleration derivative detector comprising:

a housing;

a plate fixed within said housing;

a moveable plate disposed in substantially parallel relation to said fixed plate, said moveable plate coupled to said housing along at least an edge, said moveable plate and said fixed plate defining a distance,

wherein said distance varies in response to acceleration forces acting upon said moveable plate, and wherein said moveable plate and said fixed plate generate a charge displacement capacitance signal; ~~and~~

a transimpedance amplifier receiving said charge displacement capacitance signal and generating a scaled voltage signal therefrom, wherein an acceleration signal is generated from said scaled voltage signal;

an analog-to-digital converter receiving said scales voltage signal and generating a digital voltage signal therefrom; and

a time integrator integrating said digital voltage signal in response to initialization parameters and generating an integrated signal therefrom.

2.-3. (Cancelled)

4. (Currently Amended) The system of claim [3] 1 further comprising a linearizer receiving said integrated signal and generating therefrom a linearized acceleration signal.

5. (Original) The system of claim 4 wherein said linearizer comprises a linear lookup table.

6. (Original) The system of claim 4 further comprising an actuator activating a system component in response to a system control signal; and a processor receiving said linearized acceleration signal and generating said system control signal in response thereto.

7. (Original) The system of claim 1 wherein said moveable plate comprises a flexured diaphragm, a cantilevered beam, a flexible beam, or any object which moves under acceleration with respect to said fixed plate.

8. (Currently Amended) A method for operating a single plate capacitive acceleration derivative detector system comprising:

accelerating the moveable plate, thereby causing a distance between the moveable plate and a fixed plate to change;

generating a variable capacitor signal;